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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Robert Baer et al.
Serial No.: 10/752,431
Conf. No.: 3776
Filed: 1/6/2004
For: FASTENERS FOR COMPOSITE
MATERIAL
Art Unit: 3677
Examiner: Reese, David C.

I hereby certify that this paper is being deposited with the United States Postal Service as FIRST-CLASS mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this date.

27 April 2006
Date 
Registration No. 29,367
Attorney for Applicant

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**DECLARATION UNDER 37 C.F.R. §1.132 OF COMMERCIAL
SUCCESS, FAILURE OF OTHERS AND UNEXPECTED RESULTS**

I, MICHAEL TIPPS, declare:

DECLARANT'S BACKGROUND

I am an inventor of record with respect to the above-captioned application. I am also Sales Manager for Titan Metal Werks, Inc. ("Titan"), 190 Abbott Drive, Wheeling, IL 60090, assignee of the above-captioned application.

Titan manufactures and distributes high-performance fasteners and accessories to the building materials and deck-building industries, including deck screws for composite lumber under the "SplitStop"™ trade name, among others. As Sales Manager, I am responsible for the marketing and sales of Titan's screws for use in composite lumber,

including decking and railing material, which are the subject of the above-captioned application. I am also responsible for all the day-to-day of operations of the company.

My entire adult working life has been spent in the building materials industry. I have been an employee of Titan since 1999. From 1996 to 1999, I was an independent distributor of Titan products. From 1983 to 1996, I was employed by Edward Hines Lumber Company, a significant retailer of building materials – including decking and deck fasteners – in the Midwest United States. When I left Hines' employ, I was its Merchandising Manager. Prior to joining Hines, I owned my own building materials company consisting of three lumber yards which sold, among other things, decking material and decking fasteners.

In sum, I have been employed in the building materials and decking industries for over 35 years and have actively participated exclusively in the fastener industry for over 10 years. My responsibilities and experience have included the design, planning, development, production, and marketing of new fastening products. As an owner of my own lumber yards, Merchandising Manager for Hines Lumber Company, and Sales Manager of Titan, I have developed extensive knowledge and experience with regard to decking fasteners and the markets for them.

I have attended and participated in numerous tradeshow and demonstrations where fasteners, hardware, components, and accessories are displayed, exhibited, and promoted to the major participants in the fastener industry including, but not limited to, tradesmen, contractors, manufacturers, wholesalers, and retailers. As a part of my management responsibilities with Titan, I have analyzed markets within the fastener industry to identify those markets into which Titan could likely expand.

COMPOSITE MATERIAL CHARACTERISTICS AND FASTENING ISSUES RAISED THEREBY

There are probably 60 to 70 different brands of composite decking material, and few, if any, of these products are exactly alike. Composite decking materials are primarily a mix of recycled or virgin plastics, a filler, and resin. The plastics used typically are polypropylene or polyethylene. The filler can be any number of things but, for the most part, includes some form of wood flour. The wood flours used can be either softwood or hardwood in nature, and are joined with the plastic material using a resin binder. The manufacturing process dictates how densely these composite materials are compacted within the board, resulting in a variety of densities ranging from low density (soft) to high density (hard). If a simulated “wood-grain” is imprinted onto the decking material, this will add a further variable by increasing the hardness of the decking surface, making the surface denser than the inner portion of the decking.

Furthermore, I have seen evidence during informal in-house testing that, even though most manufacturers claim to have a consistent mix, such is not necessarily the fact. Sometimes different results are obtained when a screw is installed an inch away from another screw in the same composite material board.

The characteristics of composite material are also affected by the air temperature existing during installation. The warmer it is, the easier it is to penetrate the surface of the composite material. The colder it is, the more brittle the composite material becomes,, which causes more breakage and splitting when trying to drive a screw into it.

Additionally, composite decking boards have to be attached to some type of substrate, usually a wood joist. The choice of wood used for the joist has proven to be another factor affecting the installation of fasteners in composite decking. The bulk of the decking industry uses joists made from Southern Yellow Pine, which provide good thread-holding power. Ponderosa Pine, Red Pine and other often-used wood species,

offer lower degrees of thread-holding ability, which, in turn, can limit the ability of a composite screw to pull the composite decking material tight to the joist and to fully “set” the screw’s head into the decking. Variations in available substrate material, therefore, must also be considered when designing screw fasteners to be used with composite decking.

A properly functioning screw fastener for composite material must address all of the issues involved in installing that screw into such material under varying conditions.

COMMERCIALLY AVAILABLE COMPOSITE SCREWS BEFORE THE DEVELOPMENT OF THE “SPLITSTOP™ TITAN III COMPOSITE SCREW” (“T3”)

Prior to the development of the “SplitStop™ Titan III Composite Screw” (“T3”) – the invention that is the subject of claim 1 of the present application – virtually all commercially available screws employed a “double-threaded” design, and focused on addressing the most obvious problem resulting from the use of ordinary wood screws in composite material; i.e., “mushrooming”, a bulge of material left around the screw’s head on the surface of the board after the screw had been driven.¹

These “double-threaded” screws uniformly consisted of a screw having two distinct threads; a first set of threads closest to the point of the screw that provided the drive for the screw, and a second set nearer to the head of the screw that were oriented in such a fashion as to drag back into the bore hole created by the first set of threads the remnants of the drive process and compressing those remnants within that hole. The head of the screw was then designed to additionally compress itself and any remaining remnant material into the surface of the composite board.

¹ Mushrooming is the result of displaced composite materials being extracted from the screw-entry-point and then being compressed outwardly about the screw’s head during installation. An example of mushrooming is shown in **Exhibit A** appended hereto.

Titan's analysis of the then commercially available composite screws – virtually all of which, it bears repeating, were of a double-threaded design – revealed that those screws attempted to eliminate or reduce mushrooming of the extracted composite material remnants created during the installation process by pulling as much of those remnants as possible back into the bore hole, and compacting them with the head of the screw. This approach to solving the mushrooming problem, however, created a number of other issues.

The compacting of the remnant material greatly increased the torque required to drive the screw. This increase in torque, in many cases, caused the drive bit to disengage, causing damage to the drive surfaces of the head – sometimes “stripping” the drive recess and scratching the screw's protective coating. It also caused the installer to maintain significant pressure upon the drill in order to prevent such disengagement, something, which was tiring for the installer.

Additionally, this compression of the remnant materials into the composite board often resulted in splitting or breakage of the board when screws were placed near an edge.

Another result of this compression of the remnant materials into the composite board, could be seen when a double-threaded screw's head was set, eliminating the “primary mushroom” around the head of the screw, only to create it's own, “secondary mushroom” (raised ring) around the set head. Excessive compression also manifested, at times, in the form of a “blow-out” on the backside of the board, around the exit point of the screw.

Lastly, the final finish or “set” of the screw head was, and continues to be, reported by installers as a serious issue not addressed by typical, double-threaded composite screws. Titan determined such screw's inability to fully set the screw head had

a direct relationship to the torque required to drive the screw, the head-size of the screw, and the type of substrate material used beneath the composite decking board into which the fastener had to be driven.

All its shortcomings notwithstanding, virtually all composite screws commercially available today still use the double-threaded design.²

TITAN'S SOLUTION TO COMPOSITE SCREW DESIGN

The variations among different composite materials, even within a single board, the need to reduce the pressures caused by double-threaded screws in their attempt to force remnant materials back into the composite board, and the unique problems associated with fastening composite material to other substrates all create unique challenges in designing a composite screw. Titan saw and addressed the need to design a screw that, in all types and densities of composite material, reduced the pressure developed within the composite board due to compression, and provided strong holding power regardless of the substrate to which the composite board was to be attached.

Titan currently sells the T3 screw specifically for use with composite materials. T3 screws have all of the features of claim 1 of the present application, including the

² Appended hereto as **Exhibit B** is a self-explanatory "BRANDSANALYSIS" published in *Home Improvement Executive* magazine Vol. 16, No. 1, dated March 27, 2006 at page 26. All of these screws except the Titan and Swan Secure have a double-thread design. Swan Secure has nothing in the top part of the shank, where of course Titan has spaced rings. Swan Secure recommends pre-drilling at all times. Submitted as **Exhibit C** through **Exhibit H** are renditions of the six commercially available screws named therein produced by manufacturers other than Titan, all but one (Swan Secure) of which are double-threaded. *Home Improvement Executive* ("HIE") is a leading publication in the home improvement industry, and is generally relied on by participants in the industry for marketing facts and trends. HIE typically assesses the perceptions within the home center chain and hardware co-op community, and reports on what said community perceives to be the driving forces of their business.

combination of threads having three radial lobes (with corresponding three facets), a circular undercut in the head, and a plurality of spaced rings between the threads and the head. The shaft of the T3 screws, as would be expected, also has three radial lobes and corresponding facets, more thread length, and larger diameter rings than expressly shown in the drawings.

The design and function of the T3 screw is very different from other screws meant for use with composite material, including decking and railing material. As mentioned above, virtually all composite screws on the market other than the T3, use a double-threaded design intended to eliminate mushrooming by drawing remnant material back into the composite board.

The T3 screw was designed not only to eliminate mushrooming, but to eliminate as well the other negative consequences Titan saw to be a by-product of the double-threaded screw design, as detailed above. Key here is that, instead of pulling remnant material back into the composite board and compressing it, the T3 was designed to provide relief space along its three radial lobed/faceted thread and shaft and to pull as much material as possible out of the hole, thereby reducing the compression of remnant material and, as a consequence, the torque required to turn the screw. This approach results, primarily, in a screw that splits less near the end of a board, causes less drive recess damage, and makes the screw much more user-friendly to drive. As the T3 screw progresses into the board, the first of the three spaced rings cuts away much of the remnant material pulled from the hole, (to be brushed away later), and the remaining rings gather up a small amount of the remnant material remaining. A smaller head size (compared with an earlier version of the Titan fastener) provides less head surface to set. This combination insures a complete, finished head set in all densities of composite decking, regardless of substrate materials used. These features, embodied in the design of the T3 screw, significantly decrease the compression related issues Titan determined were plaguing screws using the double-threaded design.

Thus, the T3 screw is not only different in design, it is also different in the way it works from the other composite screws on the market. I am not aware of any other commercially available composite screw having the design of the T3, or designed in any way to account for the compression build-up resulting from remnant material being forced back into the composite board.

COMMERCIAL HISTORY OF COMPOSITE FASTENERS AT TITAN

For over 10 years, Titan has been involved in the design, testing, development, manufacturing, marketing, and distribution of high-performance fasteners, especially fasteners for use with composite lumber, including decking and railing material. Titan has progressed through variations of its basic composite screw design the T3, the invention that is the subject of claim 1 of the present application, with the above-mentioned attributes for composite materials including, among other things, the three radially lobed/faceted threads, a circular undercut edge in the head, and a plurality of spaced rings, was introduced on a very limited basis at the February 2004 Deck Expo in Sparks, Nevada.

At the initial introduction, Titan also began offering the product to TimberTech® – a part of Crane Plastics Holding Company and one of the leading producers of composite decking and railing material – for use in TimberTech ornamental railing kits. TimberTech placed its initial order for the T3 in June or July 2004, and received its first shipment in December 2004/January 2005. The T3's first introduction to the mass market did not take place until after the TimberTech ornamental railing kits using the T3 screws began hitting the market in early 2005.

COMMERCIAL ACCEPTANCE OF THE T3

Titan is a small company with very limited marketing resources. In fact, Titan spends less than \$20,000 per year on general marketing for its entire line of screws, of which the screws that are the subject of the above-captioned application are only a portion. That fact notwithstanding, sales of Titan's composite screws have more than tripled.

I am also aware of a *Home Improvement Executive* "Special Feature", which covered the "2005 HIE Innovation Award Winners" for composite deck screws, appended hereto as **Exhibit I**.³ The "Titan SplitStop™ Composite Screw" placed second to "FastenMaster TrapEase™/OMG", the industry leader. The "Phillips II Fastener" placed third. Three facts are relevant here. First, Titan was not aware its product was being included in the Innovation Award Winners selection process until the results were published. Second, since the T3 had not been widely offered to the marketplace at the time of the award, the awards were, most likely, based upon the Titan screw that preceded the T3. The T3 far outperforms its predecessors and, consequently, if the tests were held today, I am confident the T3 would be found to outperform all its competition, including TrapEase. Equally relevant, third, is that at the time the selection process was conducted, Titan was a relatively unknown company with a new and unpromoted product, whereas both Olympic Manufacturing, Inc., the company that markets FastenMaster TrapEase, and Phillips Screw Company were, and are, very large companies with marketing budgets that most likely exceed Titan's gross revenues.

Manufacturers of composite material independently have come to the same conclusion as *Home Improvement Executive*. Today, notwithstanding the fact that Titan still is not in a position to make the expenditures necessary to aggressively market the T3,

³ See, **Exhibit I**, *Home Improvement Executive* magazine, Vol. 15, No. 19, dated October 24, 2005 at page 26.

that screw is promoted or specifically recommended by manufacturers of composite decking and railing material, who are estimated to drive sales of about 20% of the market for such material. This figure is representative of the percentage of the market share held by composite material manufacturers that currently use or recommend the T3 for use in their composite decking and railing products, i.e.: TimberTech®, Alcoa Oasis™, Dow Chemical and others.⁴

Titan was the only screw manufacturer invited to the TimberTech® and to the Alcoa Oasis™ decking's national sales meetings in 2005, where Titan was asked to make presentations to all of both companies' respective field representatives, who now strongly recommend the SplitStop™ T3 composite screw for use in their decking materials. I have done numerous demonstrations for both deck builders and deck building material dealers, and the vast majority of these participants state that our screw outperformed the dual-threaded competitors.

Not only do TimberTech® sales representatives recommend the T3 screw, TimberTech itself, one of the nation's leading manufacturers of composite material, purchases the T3 exclusively for use in all of its ornamental railing kits. I have been told many times by TimberTech representatives that the T3 outperforms all the competition in terms of less splitting, less secondary mushrooming, and an easier drive.

In addition to the TimberTech® and Alcoa Oasis™ recommendations, many other composite material manufacturers have tried the T3 or seen the demonstrations, and agree that the T3 seems to be the best performing screw available for composite decking. Some

⁴ See, **Exhibit J**, *Home Improvement Executive 2006 Brands Survey*, "BRANDSANALYSIS", Composite Decking & Railing, Vol. 15, No. 24, January 9, 2006 at page 30; as well as **Exhibit K**, "Guide to Composite Decking" article, published in the May/June 2006 issue of *Professional Deck Builder Magazine*, pull-out piece originally placed between pages 18 and 19.

are recommending the T3 in their composite material instructional literature. The Dow Chemical Company recommends the T3 as one of only two composite deck screws users should consider when installing its Symmatrix™ composite decking. Universal Forest Products®, Inc. – a \$3 billion, publicly traded building materials company – likewise recommends the T3 for their Latitudes® composite decking and railing material.⁵ In a recent “Guide to Composite Decking” article, published in the May/June 2006 issue of *Professional Deck Builder Magazine*, there was a pull-out section featuring composite decking manufacturers, specifications and recommendations, appended hereto as **Exhibit 12**. Titan’s composite screw was one of only four screw fastener brands mentioned by name. It received the highest number of “mentions” published – the same number as received by the Olympic FastenMaster/TrapEase® screw, the current industry leader and the composite screw that has been on the market for the longest period of time.

Titan has also been approached on at least 4 or 5 occasions, most recently at the 2006 DeckExpo in Memphis, by Menard, Inc. – a major building supply and home improvement company that, even though privately owned, successfully competes directly with the “big box” stores like Home Depot. Menard expressed interest in buying SplitStop™ composite screws to be packaged under Menard’s brand name. I have been told that the motivating factor in Menard’s continuing to contact Titan is Menard’s buyer’s recognition of the superior performance characteristics of the T3’s design.

There are a number of rapid screw installation systems on the market where screws are put into a plastic strip and used in an automated multi-screw clip designed for use on a power drill/driver, called a collated screw system. One of the leaders in the manufacture of those systems ran tests of a number of composite screws, including Titan screws and, I am told, concluded the T3 was superior to any other commercially available composite screw, including TrapEase®, the market leader. The collator also has been

⁵ See, **Exhibit L** and **Exhibit M** printed composite screw recommendations of the respective companies by brand.

asked by a number of composite manufacturers to work with us to get the T3 into their system, which we are now attempting to accomplish.

In December 2005, Builder's Supply, Inc. invited a number of its builder customers to participate in a blind study of composite screws. Each was given five different commercially available composite screws, including among others, TrapEase® and the T3 screws. The participants were asked to drive all five screws and then state which screw performed the best. Out of the five screws that the participants test drove, the T3 screw was unanimously chosen to be the best composite screw.

The consistent growth in sales and market recognition of the SplitStop™ T3 composite screw demonstrate that the superior performance of the T3 has overcome the tendency among users, contractors, manufacturers, wholesalers, and retailers to rely on the double-threaded screws they have been using over the years for composite lumber applications.

The best and most recent example of this fact is chronicled below in a recounting of my recent experience with Erie Materials, Inc.

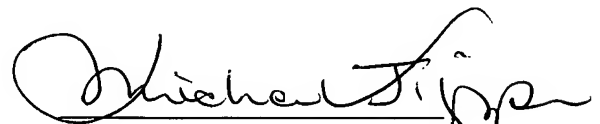
On February 3, 2006, Titan was contacted by Chris Couse of Erie Materials Inc., shortly after Erie had begun selling Alcoa Oasis™ composite decking to the public. Mr. Couse, Erie's buyer, had been motivated to call Titan when the Alcoa factory representative recommended that Erie stock and sell the T3 screw for use with Alcoa composite material. I provided Mr. Couse with information on the T3, and solicited Erie as a stocking dealer. When, on February 20, 2006, I followed up on that initial contact, Mr. Couse told me: (1) Erie had sufficient TrapEase® screws in inventory; (2) Erie had not had any complaints from its builder-customers regarding the performance of the TrapEase screw; and (3) Erie had decided not to order any T3 screws. That is where the matter stood for almost two months, until just last week, when Mr. Couse again contacted

me. He told me that Erie had received a number of complaints from its builder-customers regarding the performance of the TrapEase screw when used with Alcoa Oasis composite material. Most of the complaints related to the inability of the TrapEase screw to fully set the screw's head. He went on to say that Erie would have to "bite the bullet" and begin stocking the T3 to satisfy Erie's builder-customers. We are presently in the process of completing the paperwork necessary to take Erie on as a stocking dealer customer.

The Erie experience illustrates two important points. First, it shows how difficult it is for a new screw to break into the market due to the inertia that arises out of the established relationships existing between screw companies and distributors – even when the screw is a superior product recommended by the manufacturers with whose materials the screw is to be used. Second, it also shows that such inertia can be overcome when the end-users of the new screw recognize its performance superiority and demand that their suppliers carry it. Consequently, it bears repeating here, the superior performance of the T3 has been recognized by the industry and that recognition has been the driving force in the T3's rise to prominence among fasteners for use with composite material. The SplitStop™ T3 composite screw has been a commercial success and that success will continue to grow.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: April 27, 2006

A handwritten signature in black ink, appearing to read "Michael Tipps", written over a horizontal line.

Michael Tipps



Exhibit A

HOME IMPROVEMENT

EXECUTIVE

THE NEWS NETWORK FOR INDUSTRY LEADERS

Volume 16, No. 1 • March 27, 2006

This Week

Sherwin-Williams raises 1Q sales, eps guidance. **2**

Armstrong acquires two hardwood floor companies. **2**

CanWel 4Q revs. up 61%; Ebitda increases 81%. **2**

Quality Home Brands names Bilbrough pres./ceo. **2**

Dollar General 4Q revs. up 13%; comps off 2%. **2**

CATEGORY REPORT
Fiber Glass Batt Insulation **4**

Ledger Board Fasteners **6**

Composite Decking **10**

Carpet Stain Removers **12**

PRO DEALER VIEWPOINT
Cellular PVC Trim Board **8**

RETAILER VIEWPOINT
Greenhouse Kits **14**

PRO BRANDS ANALYSIS **16**

EXECUTIVE PROFILE
Robert Mellor
Chmn., President & CEO
Building Materials Holding Corp. **35**

FINANCIAL NEWS
Actuant Corp.
4Q sales rise 17.3% to \$276.0M;
net income up 27.0% to 19.3M. **34**

Sears 4Q Pro Forma Revs. Off 5%; Net Income Up 10%

Sears Holdings Corp. (Hoffman Estates, IL) posted revenues for the fourth quarter, ended Jan. 28, of \$16.09 billion, versus \$5.95 billion. Recent-quarter results include Sears' results of operations only since March 25, 2005. On a pro forma basis assuming the merger with Kmart occurred at the beginning of 2004, revenues were down 4.5%. Merchandise sales and services revenues were \$16.04 billion, versus \$5.95 billion. Pro forma merchandise sales and service revenues were down 4.0%. Sears domestic comp.-store sales were off 12.2%; Kmart comp.-store sales rose 0.9%.

Operating income was \$1.53 billion, versus \$472 million. Pro forma operating income was up 60.9%. Net income was \$648 million, versus \$309 million. Pro forma net income was up 10.0%. *Continued on page 2*

Wolseley 1H N.A. Revs. Up 40%, Stock 27% to \$2.5B

Wolseley plc (Droitwich, England) recorded revenues for the six months ended Jan. 31 of £6.73 billion, up 26.3% — 22.3% at constant exchange rates — from the year-ago quarter. [On Jan. 31, £1 = \$1.7675.] Results reflect 12.2% organic growth.

By segment, Wolseley's North American division had revenues of £4.31 billion, up 40.1%, reflecting organic growth of 19.2%. U.S. plumbing & heating was up 37.8% to \$4.53 billion, with organic growth of 27.0%; trading profit grew 29.5%. North America trading profit climbed 39.1% to £270.0 million.

Stock Building Supply revenue rose 27.2% to \$2.50 billion; organic growth was 7.9%, reflecting commodity price deflation in lumber and structural panels. Value-added sales rose 41%, installed business sales more than doubled, and sales to commercial and RMI contractors rose 10%. Trading profit grew 51.5% to \$157.3 million.

Consolidated operating income improved 17.8% to £371.1 million. Net income was £245.5 million, up 15.5%. During the first half, Stock added 17 units to finish with 272 locations.

Kingfisher FY Sales Up 5%; Net Income Down 69%

Kingfisher plc (London) reported retail sales for the fiscal year, ended Jan. 28, of £8.01 billion, up 4.7% from the year-ago period. [On Jan. 28, £1 = \$1.77974.] At constant exchange rates, sales rose 3.9%. Like-for-like sales declined 2.2%. Consolidated retail profits were £533.0 million, down 28.0%.

By region, U.K. sales were £4.17 billion, down 2.5%; like-for-like sales declined 6.3%. Retail profits fell 50.4% to £219.4 million. France sales were £2.72 billion, up 7.0%; like-for-like sales rose 2.7%. Retail profits grew 8.8% to £230.0 million. Sales for the rest of Europe were £795.2 million, up 29.5%; like-for-like sales were up 2.7%. Retail profits were £86.6 million, up 2.1%.

Consolidated operating profit was £269.5 million, down 60.2%, reflecting exceptional items of £215.4 million in the recent period related largely to restructuring charges at B&Q. Net income was £139.0 million, down 68.9%.

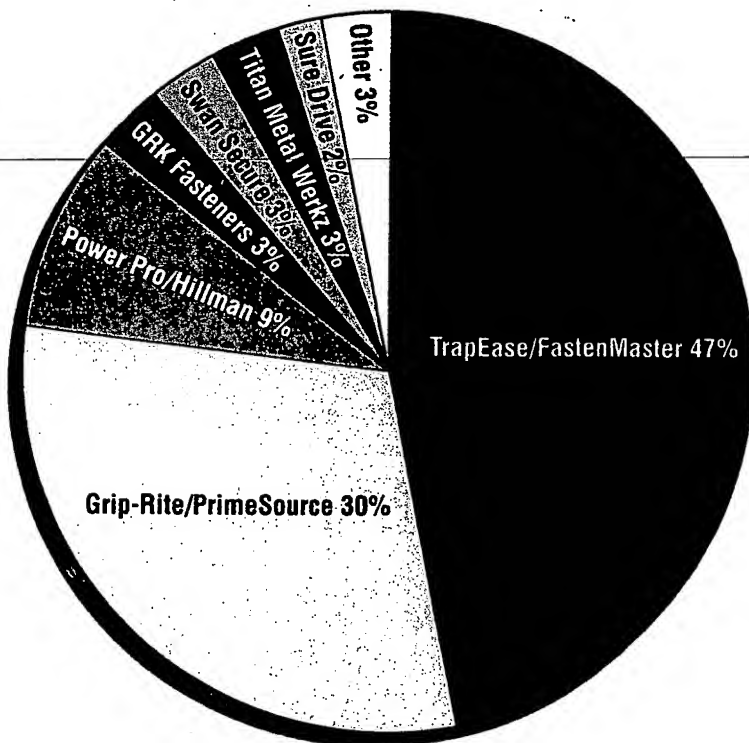
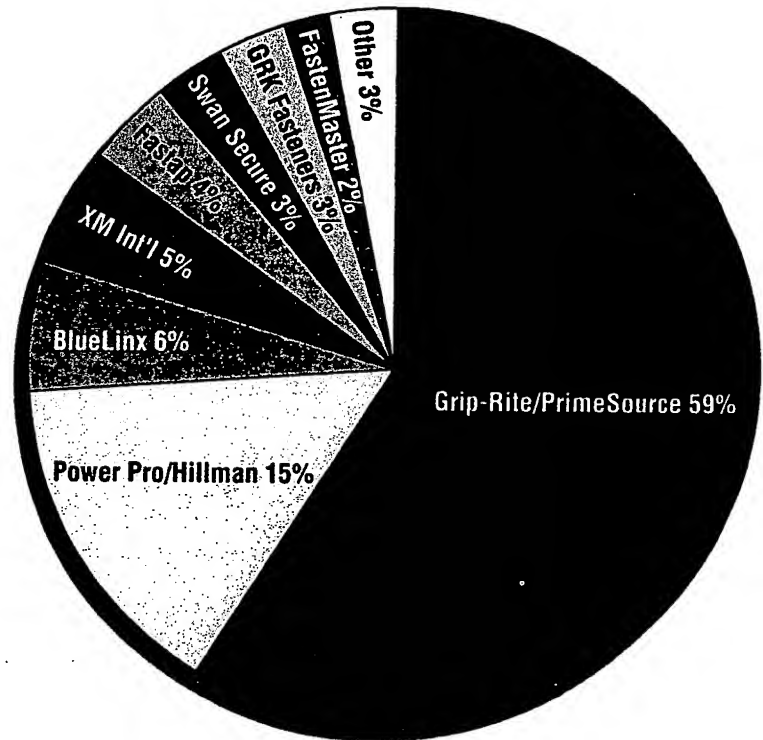
Leading Pro Dealers Rank Brands in HIE Survey

Merchandisers at the top pro dealers were asked which brands they believe will drive their business. Results reflect the votes received, weighted by respondents' buying power. The study is not a market-share analysis. *Coverage begins on page 16*

BRANDS ANALYSIS

Pro Dealers: Which brands/manufacturers do you perceive as driving your business this year in ...

WOOD DECK SCREWS



COMPOSITE DECK SCREWS



Products
GuardDog
GutterScrew
LedgerLok
TimberLok
TrapEase
TrussLok

Dealer Locator

Ask the
FastenMaster

Merchandising
Catalog

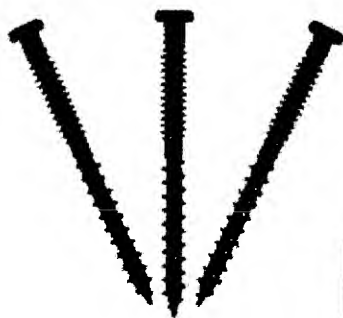
Contact Us

Purchase



FastenMaster TrapEase

COMPOSITE WOOD DECK SCREW



Click here to link to [NADRA](#).



video



application/technical
coated

application/technical
stainless



merchandising



purchase



You need QuickTime Player to view the video. If it is not installed on your computer please [click here](#) to download.

No Predrilling - No Mushrooms - No Kidding

The FastenMaster® TrapEase® is designed to eliminate the "mushrooming" effect caused by standard deck screws in composite deck materials. The TrapEase accomplishes this task with no pre-drilling...saving you installation time and labor costs.

The FastenMaster® TrapEase® is designed for use in Trex, LPWeatherBest, TimberTech, Fiberon, Latitudes, CertainTeed Boardwalk, Rhino Deck, Evergrain and other fine composite deck types.

Length	Color	Qty	Approx. Sq. Ft. Deck Surface*
2 1/2"	Gray, Dark Redwood, Brown	75 pcs	20 sq ft
2 1/2"	Gray, Dark Redwood, Brown	350 pcs	100 sq ft
2 1/2"	Gray, Dark Redwood, Brown	1750 pcs	500 sq ft
3"	Gray, Dark Redwood, Brown	75 pcs	20 sq ft

**Grip
Rite**



PRIMEGUARD PLUS

PrimeGuard Plus-Coated Aluminum Fasteners

PrimeGuard Plus-Coated Aluminum Fasteners

PrimeGuard Plus-Coated Composite Deck Screw



For composite wood materials. Pancake head reduces over-driving and leaves a smooth finish. Concave underside of the head traps excess material beneath. Square drive recess is deep and clearly formed which eliminates spin-outs (square bit included in package). Shank has two types of threads: oversized threads near top of screw help pull excess composite material back into hole, while coarse thread on remainder of shank easily penetrates material. Type 17 point minimizes need for pre-drilling and insures quick and easy penetration. Available in brown, gray.

Composite Deck Screw PrimeGuard Plus-Coated

Size	Drive	Point	Bulk Carton Quantity	Approx. Count Per Pound	SKU
1-1/4"	Square	Type 17	5M	197	P114CSB (brown)
1-5/8"	Square	Type 17	5M	156	P158CSB (brown)
2"	Square	Type 17	2.5M	126	P2CSB (brown)

Aluminum offers a maintained performance even when used with wood or asbestos siding and singles roofing, aluminum and vinyl siding and trim, plastic panels, gutters and downspouts, porches, decks, and outdoor furniture. The surface of aluminum fasteners is ideally suited for painting. Aluminum fasteners are not recommended for use with treated lumber.

PrimeGuard Plus Aluminum Trim Nail

For attaching aluminum gutters, trim and other similar projects. Thin, smooth shank and checkered head for easy installation.



Available in white and brown.

Trim Nail PrimeGuard Plus Aluminum Painted Smooth Shank

Size	Gauge	Head Size	Approx. Count Per Pound	SKU
1-1/4"	12.5	7/32"	1,040	P114ATB (brown)
1-1/4"	12.5	7/32"	1,040	P114ATW (white)

NEW FROM HILLMAN

POWER PRO

Composite Wood Screws

Exclusively designed for composite wood fastening.

Dual thread construction attacks mushrooming fibers and pulls them into hole providing a clean finished look. Engineered to self drill into the hardest composite woods, eliminate mushrooming & prevent splitting in composite woods.



1000 hour salt spray resistant Ceramic Coating is recommended for ACQ, Copper Azole, and CCA treated lumber. Available in 3 colors: gray, tan, and redwood to match the weathered appearance of popular composite wood brands. Also available in 305 Stainless Steel.

Made to Perform

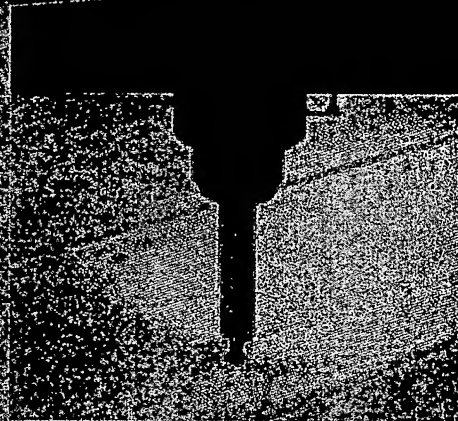
Manufactured with large #10 wire that is hardened and tempered for strength and durability.

Easy to Drive

Star Drive and patented Pro-Cut thread up design combine to start fast and cut easily while demanding 30% less drive-in torque than other screws.

For Use With the Leading Brands

Power Pro Composite Wood Screws are designed for use with TREX®, CHOICEDEK®, BOARDWALK®, WEATHERBEST®, TIMBERTECH®, EVERGRAIN®, VERANDA®, and more.



Regular Deck Screw

Mushrooming is Terminated!

Composite Wood Screw

T20 Star Drive

- No slipping or stripping.

Composite Threads

- Pulls composite fiber into hole.

ACQ Compliant Ceramic Coating

- Available in gray, tan and redwood.



Weather-Sealing Head

- Drives flush against deck surface and seals out moisture.

Serrated Mid-Section

- Loosens composite fibers.

Patented Pro-Cut Thread

- "5 blade" design cuts fast without pre-drilling.

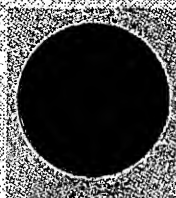
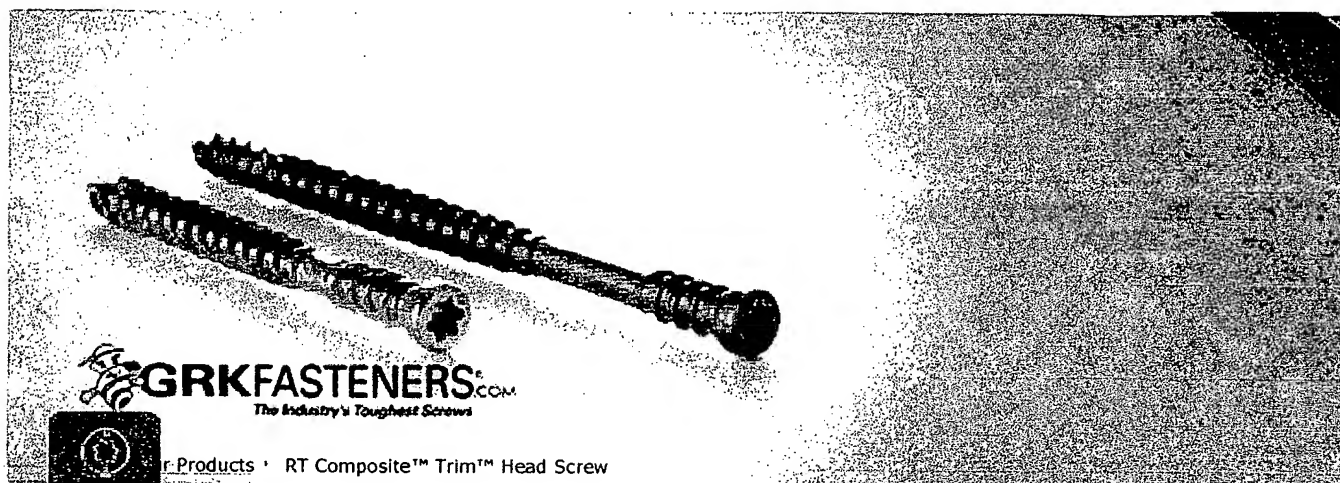


Exhibit E



RT Composite™ Trim™ Head Screw

– patented –

- Some sizes available in **PHEinox™ Stainless Steel**
- View our [RT Installation Video](#)

GRK has modified its innovative FIN/Trim™ Head Screw to include reverse threading under the head of the fastener. After extensive testing, GRK has found that the reverse thread on the RT Composite™ Trim™ Head Screw helps the screw disappear beneath the surface of the wood composite material, reducing or eliminating the dimple that sometimes appears when using the FIN/Trim™ Screw.

GRK's RT Composite™ Trim™ Head Screws are ideal for most fine carpentry applications, and are recommended for composite decking projects. The reverse thread feature is available in sizes from 2" to 3"1/8.

The RT Composite™ Trim™ Head screw's exceptionally small head, along with the **W-Cut™** thread design, prevent most material splitting. Pre-drilling is only necessary if the building material's limitations require a pilot hole to be drilled. (Always consult wood supplier's / manufacturer's recommendations)

RT Composite™ Trim™ Head screws come with 1200+ salt spray hours **Climatek™** corrosion protection. This will come in very handy when using our Trim™ screws in composite decking.

FOR BEST RESULTS, TRIM™ SCREWS SHOULD BE DRIVEN AT HALF SPEED.

Suggested Uses

- Composite Wood and Wood Decking
- Window Jambs
- Door Jambs
- All Trim Applications

[View Price List](#)

[View Selection Guide](#)

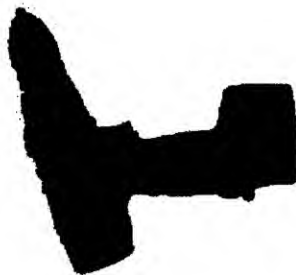
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2000年12月29日

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SEARCH



- .230" diameter #1 Square Drive Trim Head
- "Beaver Bite" type 17 auger point for extra fast starts
- Coarse threads approximately 2/3 up shank draw board tightly to substrate
- Pre-drilling always recommended, and a **must** near board ends to prevent splits
- Slender #7 shank for finish work and trim
- Use on decking jobs with stable woods & wood substitutes when screw heads need to be hidden
- **316 stainless steel "SWANEZE" strongly recommended for seaside applications**
- **Deck Pack** contains enough screws to fasten **100 square feet** (6" boards on 16" centers)



305 Stainless Steel

Size	Approximate Weight (Pounds)	Capacity (Gallons)	Center Point (Inches)	Standard Price
1"	#7	5000	18	Select Your Package and Price
1 1/4"	#7	5000	20	Select Your Package and Price
1 5/8"	#7	4000	22	Select Your Package and Price

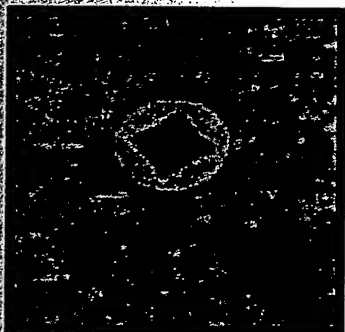
COMPOSITE DECK SCREW

Sure Drive® CDS™

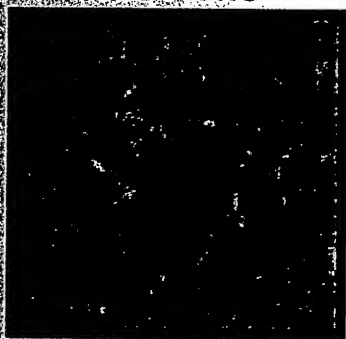
NO MORE MUSHROOMS!

New Improved Thread
Design Drills easier with
LESS MUSHROOMING in
composite lumber

You want this



Not this



Sure Drive USA®, Inc.

TOLL FREE 888-219-1700

S. San Francisco, CA-Dallas, TX-Huntersville, NC

www.suredrive.com

The ORIGINAL Robertson®
Square Drive Recess provides
positive bit engagement

UNDERCUT head
traps any loose
material

OVERSIZED top
thread traps loose
material

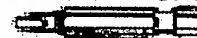
RUSTGUARD® coating
provides excellent
corrosion protection

1018-1022 case
hardened steel

WOODMASTER™ thread
design starts faster and
slices through decking

TAN, GRAY and REDWOOD
to match most popular
deck colors

*Free Driver Bit
in Every Box!



HOME IMPROVEMENT

EXECUTIVE

THE NEWS NETWORK FOR INDUSTRY LEADERS

Volume 15, No. 19 • October 24, 2005

This Week

Whirlpool 3Q sales
up 9%, N.A. 10%. **2**

American Standard 3Q
sales up 10% to \$2.6B. **2**

Cooper 3Q revs. up
6%, income 14%. **2**

Mohawk 3Q sales up
11%; income off 4%. **2**

BlueLinx names Macadam
ceo; McElrea to retire. **2**

PPG 3Q sales up 6%;
income declines 19%. **2**

3M 3Q cons. & office
sales increase 8%. **2**

Royal Lighting 3Q sales
up 7%; income down 9%. **2**

DuPont taps Vergnano,
Trerotola vp/gm roles. **36**

CATEGORY REPORTS
Pliers **4**

Soft-Top Carports **8**

Interior Wall Panels **10**

PRO DEALER VIEWPOINT
Pressure-Treated Lumber **6**

RETAILER VIEWPOINT
Wire Connectors **12**

SPECIAL FEATURE
Innovation Awards **14**

Newell Rubbermaid Pres./CEO Galli Steps Down

Newell Rubbermaid Inc. (Atlanta) pres/ceo Joseph Galli has left the company to pursue other opportunities. Industry insiders cite the company's exposure to rising resin prices, precipitated by skyrocketing oil prices, as a possible pressure point related to the departure. The company has struggled since acquiring Rubbermaid in 1999 in a stock deal worth about \$5.8 billion.

Mark Ketchum, a director since earlier this year, was appointed interim ceo until a successor is named. Ketchum, 55, was previously president global baby & family care at Procter & Gamble from 1999 to 2004; he joined P&G in 1971.

Galli, 47, was pres/ceo of Newell Rubbermaid from January 2001, when he joined the company. Previously, he was pres/ceo of VerticalNet from 2000 and pres/coo of Amazon.com. from 1999. Prior to then, Galli was with Black & Decker from 1980, most recently as president Worldwide Power Tools & Accessories. *Continued on page 36*

Sears Holdings' Chief Merchant Padilla Resigns

Sears Holdings Corp. (Hoffman Estates, IL) announced that Luis Padilla, president of merchandising & marketing since April, has resigned. Padilla was previously president of merchandising at Sears since August 2004. Prior to then, he was executive vp merchandising at Marshall Field's from 2001 and senior vp merchandising softlines at Target stores from 1994; he joined Target in 1982.

Sears Holdings has been redefining the company's executive structure since the March acquisition of Sears, Roebuck & Co. by Kmart Holding Corp. Senior merchants leading Sears' home and apparel businesses will report to chairman Edward Lampert.

On Sept. 30, Lampert assumed responsibility for the majority of the merchandising, as well as marketing, design, and online businesses of Sears Holdings, which includes Kmart and Land's End. In doing so, he took away two of the three areas that reported to Padilla—marketing and new-product development. Aylwin Lewis, pres/ceo of Sears Holdings, oversees the company's 3,900 stores, along with home services, finance, legal, supply chain, information technology, and human resources. *Continued on page 36*

GE 3Q Cons. & Industrial Sales Up 3%, Profit 20%

General Electric Corp. (Fairfield, CT) posted consumer & industrial revenues for the third quarter, ended Sept. 30, of \$3.52 billion, up 2.9% from the year-ago quarter. Recent-quarter results reflect investments in high-end consumer products, including the GE Profile SmartDispense dishwasher, GE Profile freestanding double-oven range, and GE Monogram Walk-in Wine Vault. Segment profit increased 20.2% to \$196 million.

Consolidated revenues were \$41.93 billion, up 9.4%, reflecting 8% organic growth. EBIT rose 17.6% to \$6.02 billion; all six GE businesses delivered double-digit earnings growth. Net income was \$4.68 billion, up 14.9%.

HIE Spotlights Innovative Manufacturers, Brands

HIE researched company Web sites, press releases, promotional materials, and articles published over the past year. First, second, and third place winners were chosen in several product categories based on overall presentation, including unique products, packaging, and/or features brought to market. *Coverage begins on page 14*

2005 HIE Innovation Award Winners

COMPOSITE DECK SCREWS

First Place: **FastenMaster TrapEase/OMG**

Second Place: **SplitStop/Titan Metal Werks**

Third Place: **Phillips Fastener**

COLUMNS & POSTS

First Place: **HB&G**

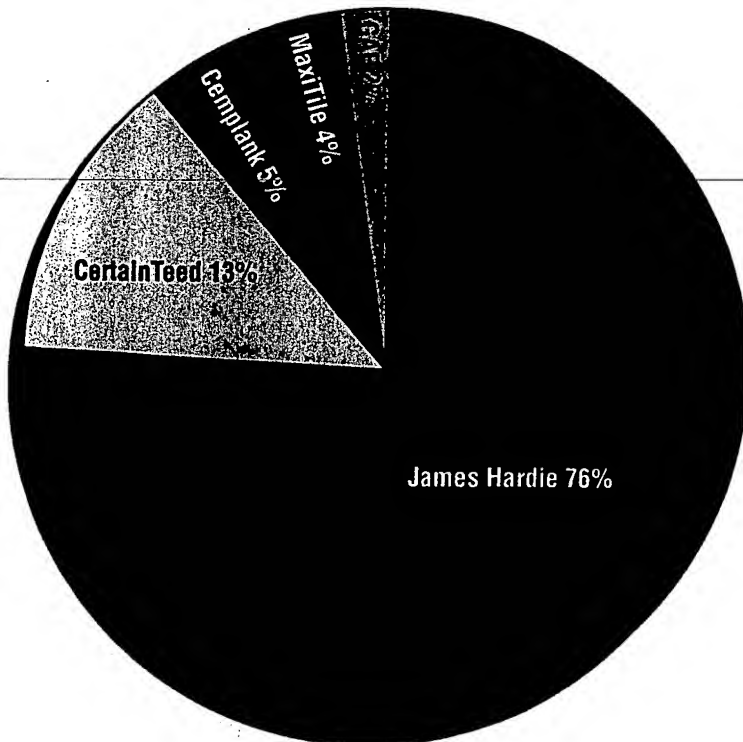
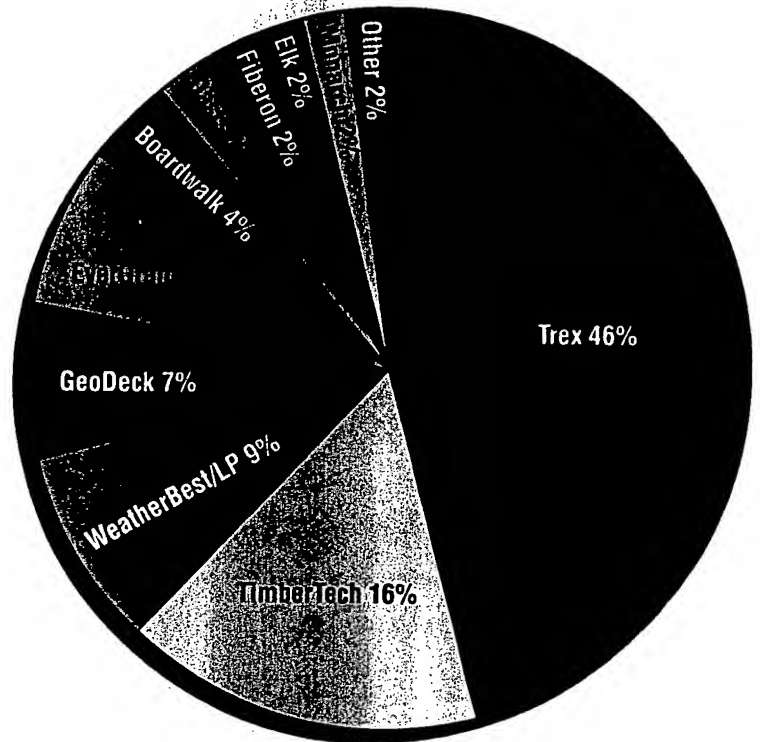
Second Place: **Turncraft**

Third Place: **Dixie-Pacific**

BRAND ANALYSIS

Pro Dealers: Which brands/manufacturers do you perceive as driving your business this year in ...

COMPOSITE DECKING & RAILING

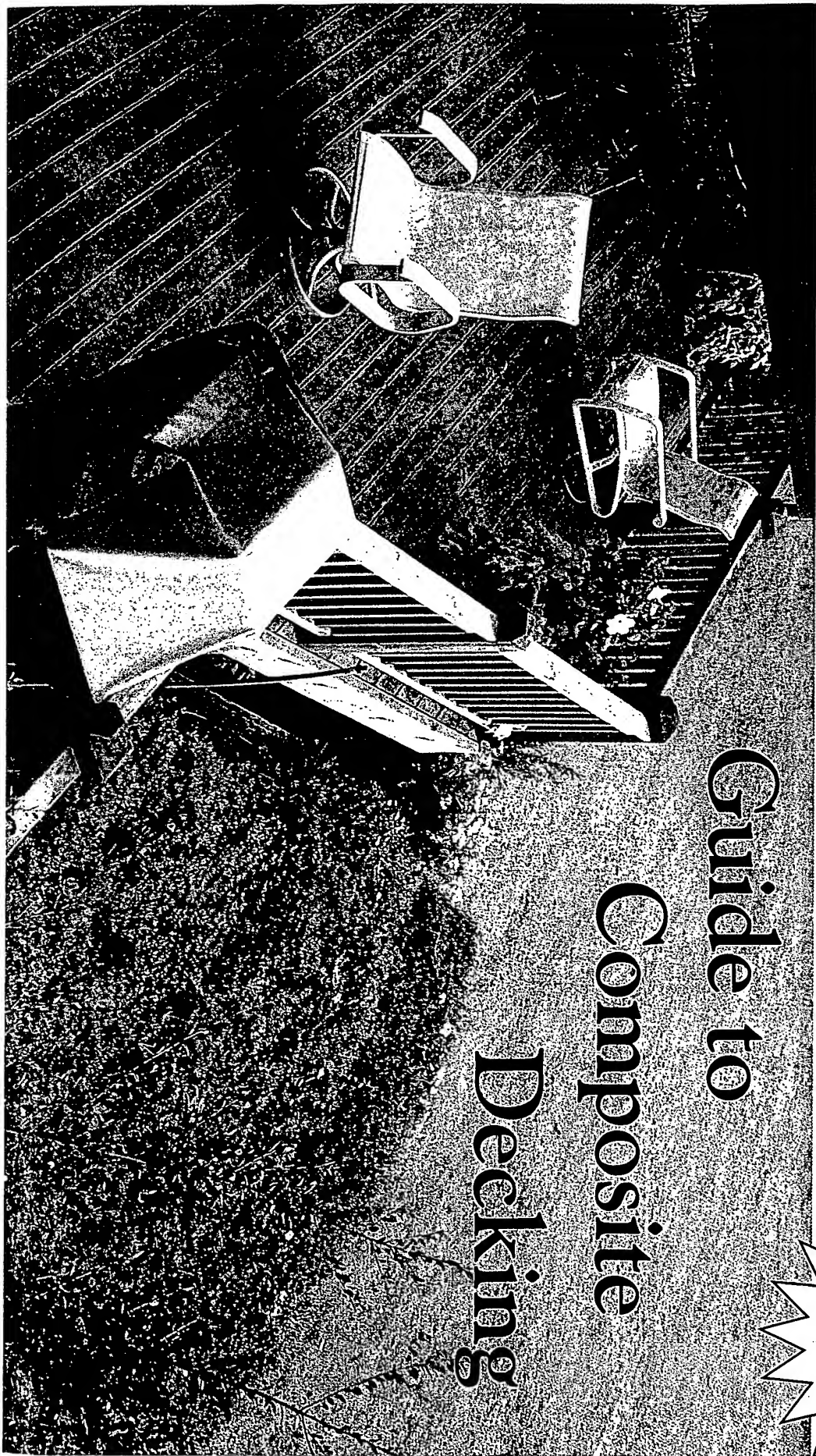


FIBER CEMENT SIDING

professional deck builder

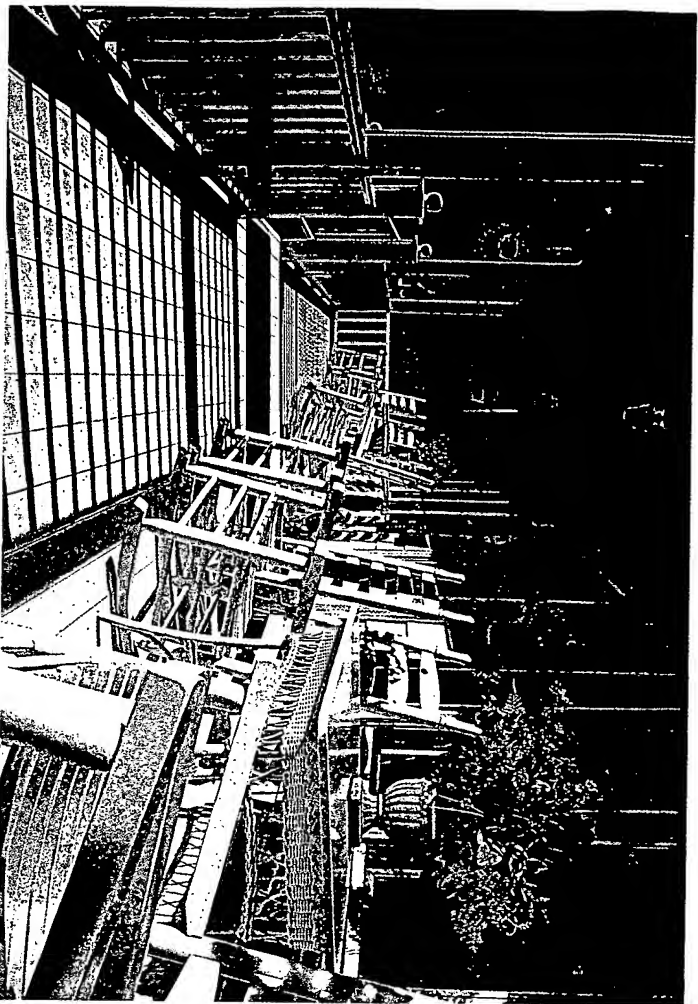
BONUS!

Guide to Composite Decking



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professional deck builder

Guide to Composite Decking

Brand Name	Colors	Joist Spacing at 90° and 45°	Board Spacing	Minimum Ventilation	Built-in Mold Inhibitor	Warranty	Recommended Fasteners	Maintenance	Matching Fascia / Railing	Bendable
GeoDeck	Cedar Driftwood Mahogany	24" / 16"	3/16" side to side, no butt joints. Use GeoDeck Feature. Strip for boards end to end.	24" or less from grade or rooftop. Traditional board. More than 24" from grade or rooftop. Traditional or tongue & groove board	YES	20-year limited.	Ring shank nails or timberhead screws	Requires no annual maintenance. Can be cleaned with any general purpose household cleaner or degreaser.	YES / YES	NO
Latitudes Composite Decking	Redwood, Cedar, Gray	16" / 12"	1/4" on side, 1/8" for butt joints	2" between bottom of joists and grade	NO	15-year limited.	2-1/2" corrosion- resistant composite wood deck screws (i.e., TrapEase™ or SplitStop™).	Periodic washing with soap and water.	YES / YES	YES
LP WeatherBest Premium Grain	Tuscan Walnut, Driftwood Grey	16" / 12"	3/16" between	Height of substructure	YES	10-year limited, fully transferable	#8 x 2-1/2" stainless steel, 3" screws for to protect build up	Clean periodically.	YES / YES	NOT RECOM.

LP WeatherBest Premium Grain	Tuscan Walnut, Driftwood Grey, Western Redwood, Pacific Cedar	16" / 12"	3/16" between boards and 1/8" between butt joints	Height of substructure should be 12" from grade.	YES	10-year limited, fully transferable	#8 x 2-1/2" stainless steel; 3" screw for railing	Clean periodically to prevent build-up of pollen or airborne pollutants.	YES / YES	NOT RECOMMENDED
LP WeatherBest Deep Grain	Chestnut, Greystone	16" / 12"	3/16" between boards and 1/8" between butt joints	Height of substructure should be 12" from grade.	YES	10-year limited, fully transferable	#8 x 2-1/2" stainless steel; 3" screw for railing	Clean periodically to prevent build-up of pollen or airborne pollutants.	YES / YES	NOT RECOMMENDED
Millennium Decking	Grey, Sandeewood	16" / 12"	No spacing	As required by substructure	NO	20-year non pro-rated	2" ceramic coated or stainless standard deck screws	Clean with soap and water as needed	YES / NO	NO
MoistureShield Professional Grade Decking	Cape Cod Gray, Seasoned Mahogany, Rustic Cedar, Classic Natural	16" / 12"	1/4"	Good air flow around joists and decking	NO	50-year limited	Swan Secure #7 stainless steel 2-1/4" screws	Periodic cleaning	YES / YES	YES
Oasis by Alcoa	Pacific Redwood, Carolina Pine, New England Grey, Teak	16" / 12"	1/8"	No ground contact	YES	25-year transferable	SpillStop Titan III, EbtY biscuit system	Clean as needed	YES / YES	NO
PC Ultima Decking	Grey, Redwood, Cedar	16" / 11"	1/8"	6" on three sides	YES	20-year transferable, non prorated	Hidden deck clip system	Clean with water	YES / YES	NO
SYMMATRIX	Driftwood, Redwood, Cedar	16" / 12"	1/4"	6"	YES	15-year limited, transferable	2-1/2" corrosion-resistant composite wood deck screws (i.e. TrapEase™ or SplitStop™)	At least once a year or as needed	YES / NO	YES
TimberTech Floozion™ Plank	Cedar, Grey, Redwood	24" / 17"	1/8"	12" below joist on 3 sides	YES	25-year limited	Stainless steel screw or high quality coated deck screw	Clean with deck cleaner in spring and fall	YES / YES	YES
TimberTech Earthwood™ Plank	Tropical Walnut	16" / 11"	1/8"	1 1/2" sleeper system	YES	25-year limited	Stainless steel screw or high quality coated deck screw	Clean with deck cleaner in spring and fall	YES / NO	YES
TimberTech TwinFinish® Plank	Cedar, Grey, Redwood	16" / 11"	1/8"	1 1/2" sleeper system	YES	25-year limited	Stainless steel screw or high quality coated deck screw	Clean with deck cleaner in spring and fall	YES / YES	YES
TimberTech 2x6 Plank	Cedar, Grey, Redwood	24" / 17"	1/8"	1 1/2" sleeper system	YES	25-year limited	Stainless steel screw or high quality coated deck screw	Clean with deck cleaner in spring and fall	YES / YES	YES
TimberTech 5/4 Plank	Grey	16" / 11"	1/8"	1 1/2" sleeper system	YES	25-year limited	Stainless steel screw or high quality coated deck screw	Clean with deck cleaner in spring and fall	YES / YES	YES
Trox Arconic™	Saddle	5/4 - 16" / 12"	1/4" - 3/8"	3 1/2" above	YES	25-year limited	Nails/deck screws	Periodic cleaning with	YES / YES	YES

Plank				System			Survey or light quality coated deck screw	Warranty in spring and fall	
Trex Accents™ Reversible	Saddle, Madeira, Winchester Grey, Woodland Brown	5/4 - 16" / 12" 2x6, 6 - 20-24 / 16-20	1/4" - 3/8"	3 1/2" above ground	YES	25-year limited, transferable	Nails/deck screws: Hot dipped, galvanized, stainless steel, ceramic coated	Periodic cleaning with deck cleaner	YES / YES YES
Trex Brasilia™	Cayenne, Burnished Amber	5/4 - 16" / 12" 2x6 - 20" / 16"	1/4" - 3/8"	3 1/2" above ground	YES	25-year limited, transferable	Nails/deck screws: Hot dipped, galvanized, stainless steel, ceramic coated	Periodic cleaning with deck cleaner	YES / YES YES
Trex Origins™	Saddle, Winchester Grey	16" / 12"	1/4" - 3/8"	3 1/2" above ground	YES	25-year limited, transferable	Nails/deck screws: Hot dipped, galvanized, stainless steel, ceramic coated	Periodic cleaning with deck cleaner	YES / YES YES
Veranda	Slate Grey, Burnished, Redwood	16" / 12"	3/16" side-to-side and 1/8" end-to-end	Above and below	YES	15-year limited	Stainless steel or coated fasteners	Power wash twice a year	NO / YES NO
Xtendex Classic	Gray Cedar Redwood	16" / 12"	Preset by clip	Reasonable ventilation	Rice hull formula naturally mold resistant	20-year non transferable	Quick Clip fastening system	Regular washing to remove dirt, tree sap, etc.	YES / YES NO
Xtendex Architectural	Gray Cedar Redwood	16" / 12"	Preset by clip	Reasonable ventilation	Rice hull formula naturally mold resistant	20-year non transferable	Quick Clip fastening system	Regular washing to remove dirt, tree sap, etc.	YES / YES NO
Xtendex Traditional	Gray Cedar Redwood	16" / 12"	1/8"	Reasonable ventilation	Rice hull formula naturally mold resistant	20-year non transferable	#8 2-1/2" stainless steel screw	Regular washing to remove dirt, tree sap, etc.	YES / YES Proper bending equipment at limited curvature radius

Resource List

Boardwalk - www.certainteed.com
 Choicedek - www.choicedek.com
 CrossTimbers - www.elkcorp.com
 Elements - www.elementsdecking.com
 Evergrain - www.evergrain.com
 Evergreen Wood Composites - www.evergreen-wood.com
 Exotics by Monarch - www.monarchdeck.com

fiberon - www.fiberondecking.com
 GeoDeck - www.geodeck.com
 Latitudes - www.ufpi.com
 LP WeatherBest - www.weatherbest.com
 Millennium Decking - www.mdecking.com
 Moistureshield - www.moistureshield.com
 Oasis by Alcoa - www.oasisdeck.com

PC Ultima - www.premiumcomposites.com

SYMMATRIX - www.dowsymatrix.com

TimberTech - www.timbertech.com

Trex - www.trex.com

Veranda - www.verandadeck.com

Xtendex - www.xtendex.com

This chart is a special supplement to the May/June 2006 issue of *Professional Deck Builder* magazine. Information for this chart was provided by all manufacturers responding. *Professional Deck Builder* magazine is not responsible for errors or omissions. Additional copies are available for a nominal fee. No portion of the magazine or the chart may be duplicated or disseminated without the express written permission of the publisher.

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Brand Name	Colors	Joist Spacing at 90° / 45°	Board Spacing	Minimum Ventilation	Built-in Mold Inhibitor	Warranty	Recommended Fasteners	Maintenance	Matching Fascia / Railing	Bendable
Boardwalk®	Brown Tan Gray	16" for 5/4 HFS style 20" for other 5/4 planks 24" for 2x6 dock plank	1/8"	As required by substructure and application - approved for direct contact with ground	YES	10-year limited non-prorated warranty available with exclusive SureStart™ coverage	FastenMaster® Trade-Base® composite deck screws, GDS® from Sure Drive® USA	Powerwash once a year	YES / YES	NO
ChoiceDek®	Redwood, Woodtone, Sandstone, Gray	16" / 12"	1/4"	None required	NO	Limited lifetime warranty	Stainless steel trim head screws	Periodic cleaning (see Web site for more info)	YES / YES	YES
CorrectDeck®	Coastal Gray, Cedar Mahogany	16" / 14"	1/8"	1-1/2"	NO	25-year limited	Fastenator™	Sweep	YES / YES	NO
CorrectDeck CX™	Coastal Gray, Cedar Mahogany, Cottage Green, Merlot	16" / 14"	1/8"	1-1/2"	YES	25-year limited	Fastenator™	Sweep	YES / YES	NO
CrossTimbers™	Pewter Gray, Weathered Wood, Sienna Sunset, Sandalwood, New Cedar	24" / 16"	Between: 1/8" min. (or EZ-Build™ hidden fastening system) End-to-end: above 60°F - 1/8" min. below 60°F - 3/16" min.	12" below deck	YES	20-year limited, non-transferable First five years: non-prorated material and labor	EZ-Build™ fastening system or composite deck screws	Periodic sweeping and seasonal cleaning with a bleach-based deck wash	YES / YES	NO
EverGrain	Redwood, Cedar, Weathered Wood, Cape Cod Grey	1x6 - 16" / 12" 2x6 - 20" / 16"	1/8"	Adequate	NO	25-year limited, transferable by owner one time in first 5 years	No recommendation	Semi-annual cleaning	YES / YES	YES
Elements Reversible CordedMate	Redwood, Weathered Wood, Cape Cod Grey	1x6 - 16" / 12" 2x6 - 20" / 16"	1/8"	Adequate	NO	25-year limited, transferable by owner one time in first 5 years	No recommendation	Semi-annual cleaning	YES / YES	YES
Elements Reversible Grain	Redwood, Cedar, Weathered Wood	1x6 - 16" / 12" 2x6 - 20" / 16"	1/8"	Adequate	NO	25-year limited, transferable by owner one time in first 5 years	No recommendation	Semi-annual cleaning	YES / YES	YES

EverGreen Wood Composites	Adobe, Brown, Gray, Natural	16" / 12"	1/8"	NO	NO	25-year limited, transferable	Composite deck screws	Clean as needed	YES / YES	YES
Exotics by Monarch	Teak, Tigerwood, Cypress, Ironwood, Mahogany	16" / 12"	1/8" - 1/4"	Not required	YES	20-year fully transferable, replacement product only	Stainless steel deck screws; composite deck screws; under deck attachment	Regular cleaning with mild detergent, deck brush, and hose. If necessary, clean with Clorox Green Out Door Bleach	NO / YES	NOT RECOMMENDED
fiberon® Home Select	Gray, Brown	16" / 12"	3/16" side-to-side, 1/8" at end (if above 25° F) 1/4" between board and solid structure	Above ground installation with 2" of ventilation	NO	15-year limited	Stainless steel composite deck screws or nails, two per joist	Annual cleaning after major pollen bloom, whenever dirt builds up. Refer to FAQ bulletin on Web site	YES / YES	NO
fiberon® Professional	Gray, Brown, Redwood, Cedar	16" / 12"	3/16" side-to-side, 1/8" at end (if above 25° F) 1/4" between board and solid structure	Above ground installation with 2" of ventilation	NO	20-year limited	Stainless steel composite deck screws, one per joist; common hidden fasteners; TigerClaw or other groove on groove fastener	Annual cleaning after major pollen bloom, whenever dirt builds up. Refer to FAQ bulletin on Web site	YES / YES	YES
fiberon® Tropics	Jatoba, Mahogany, Tigerwood (fall 2006)	16" / 12"	3/16" side-to-side, 1/8" at end (if above 25° F) 1/4" between board and solid structure	Above ground installation with 2" of ventilation	NO	20-year limited	Stainless steel composite deck screws, one per joist; common hidden fasteners; TigerClaw or other groove on groove fastener; underdeck fasteners	Annual cleaning after major pollen bloom, whenever dirt builds up. Refer to FAQ bulletin on Web site	YES / YES	YES

CONTINUED ON REVERSE

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Tips For Decking Installation -

The Equator fastening system is designed for use with Latitudes Equator decking.

Items you will need

- Drill/Power screwdriver
- Circular saw with carbide tip blade
- Assorted fasteners (see instructions)
- Tape measure
- Carpenter's pencil
- Safety Glasses/Goggles

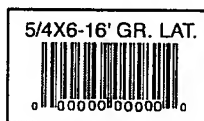
Coverage

175 pieces of Equator hidden fasteners will install:
100 sq. ft. of 6" wide (5-1/4" actual) deck boards on 16" centers

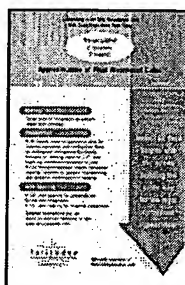
The appearance of Latitudes Equator decking changes when viewed from different ends. To achieve the most consistent color,

install all of the boards in the same direction using the product end tags (A) as a point of reference, or install all of the boards with the arrows on the product stickers (B) pointing in the same direction. Installing boards in opposing directions will create contrasting light and dark shades of the deck board color and is not covered under warranty. Prior to construction, check with your local regulatory agency for special code requirements in your area. For best results, follow these simple installation instructions, paying close attention to gapping, spacing and fastener requirements. **Joist Span** – 16" on-center for residential perpendicular applications. Residential parquet patterns, diagonal or herringbone designs all require joist spacing 12" on-center. Contact Latitudes product support at 877-463-8379 for commercial applications. **Side Gapping** – 1/4". **End-to-End Spacing** – allow a minimum of 1/16" gap between board ends for every 20° F of difference between installation temperature and the hottest temperature expected. For any decking where two boards meet end-to-end over a joist, add additional blocking. Allow 1/4" distance between all decking material and any permanent structure or post. After all of the decking has been attached, snap a chalk line (white or yellow chalk recommended) flush with or up to 1-1/2" out from the deck framing and trim with a circular saw.

Latitudes Equator Decking, like all wood and composite decking products, requires proper ventilation and drainage to ensure its longevity. When using a minimum 2x6 joist standing on edge and the suggested 1/4" side gap, there should be a 2" clear space between the bottom edge of the joists and grade in order to allow for proper ventilation. Adequate drainage is also needed to prevent water from pooling under the deck.



(A) end tag



(B) product sticker

Fasteners -

For ease of installation, our Equator fastener fits into the slot on each side of the deck board to eliminate pre-drilling and provide a timeless, fastener-free deck surface. The deck boards do require traditional fasteners on the outside and inside edges of the deck. Begin by fastening the outside edge of the first board to the rim joist every 16".

For this, we recommend using 2-1/2" corrosion-resistant, composite wood deck screws (i.e., TrapEase™ by OMG or SplitStop composite screws from Titan Metal Werks). These screws help prevent the common "mushroom" effect that sometimes occurs when using standard fasteners. It can also reduce the amount of pre-drilling and countersinking. If using ordinary coarse-thread deck screws, the best results are achieved by pre-drilling a pilot hole and countersinking prior to driving screws. Screws should be driven flush with the Latitudes surface. Do not over drive. Use 1 fastener per board every 16". For any decking where two boards meet end-to-end over a joist, add additional blocking. Always pre-drill a pilot hole when fastening within 1-1/2" of board ends whether using either composite or wood screws. (Figure 1)

On the other side of the board, place an Equator fastener into the slot and center on the joist. (Figure 2) Install a #8, 2-1/2" stainless steel screw at a 90° angle through the Equator fastener and drive flush. Do not over drive. The fastener wings must remain level with the joist for the next board to fit correctly. Install 1 Equator fastener at each joist location. Slide the next board into place so the wings on the previous fasteners fit into the slot on the side of the board. The equator fastener will automatically gap the boards with the proper spacing. Repeat the process for each board until the outside edge of the final board is fastened with screws. Use fascia to conceal the board profile and

inhibit board movement over time. If no fascia is being used, the entire perimeter of the deck should be fastened to the rim joist with screws. Use 2 fasteners at the end of each board. These screws will be inconspicuous once the railing is installed. Apply these same principles when installing stair treads.

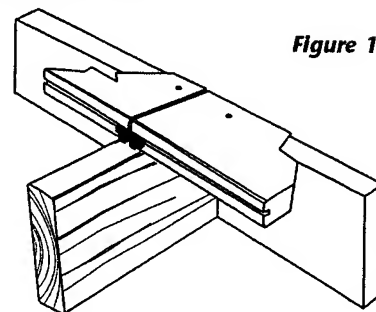


Figure 1

Fasten the outside edge of the first board to the rim joist with screws. Pre-drill and countersink all deck screws, regardless of type, that are within 1-1/2" of the end of the deck board. On the other side of the board, place an Equator fastener into the slot and center on the joist.

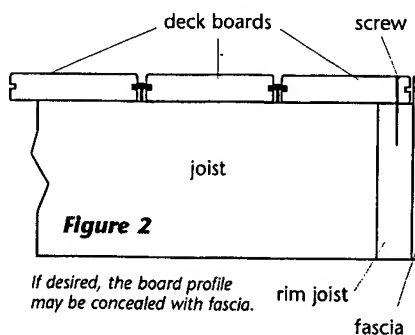


Figure 2

If desired, the board profile may be concealed with fascia.

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SYMMATRIX COMPOSITE DECKING

READY

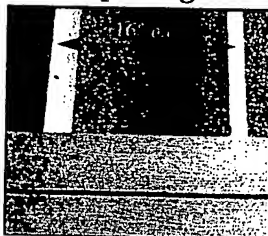
1. Install joist system, to design specifications, in accordance with local code requirements. Ensure joists are level and plumb.
2. Measure and cut decking boards to size. White or yellow chalk line is recommended to mark cut lines.
3. To avoid the "mushrooming effect," pre-drilling and countersinking screws is recommended.

SET

Position decking boards, following spanning and gapping requirements here.

(Note: SYMMATRIX™ Composite Decking is designed as surface deck material. To allow for proper drainage and ventilation, the product should be used a minimum of 6 inches from ground level.)

Joist Spacing



Perpendicular applications:
Install decking boards 16" o.c.



Diagonal designs:
12" o.c.

Gapping

Gapping between decking boards is important for proper drainage and air circulation, to allow for slight thermal expansion and contraction that can occur with temperature changes, and to account for shrinkage of the wood joist system.

Width-to-width: Allow 1/4" between



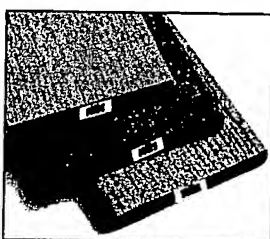
boards and between decking material and any permanent structure or post.

End-to-end: Allow minimum 1/8" for



every 20°F difference between installation temperature and highest temperature expected.

Board Orientation



For optimum color consistency, orient all boards in the same direction, using labels or end tags as reference.

DECK

1. Attach SYMMATRIX™ Composite Decking boards to joist system with 2-1/2" corrosion-resistant composite wood deck



screws (such as FastenMaster TrapEase by OMG, Inc. or SplitStop by Titan Metal Werks, Inc.)

2. Drive screws flush with SYMMATRIX surface. Do not over drive.
3. After attaching all decking boards, mark along the edge of the finished deck (flush



with the deck or up to 1-1/2" from deck framing) with a chalk line. Trim with a circular saw.

MATERIALS CHECKLIST

The following tools and equipment are recommended to install SYMMATRIX™ Composite Decking:

- Tape measure
- White or yellow chalk line
- Protective eye wear
- Miter box saw or circular saw (carbide-tipped blades recommended)
- 2-1/2" corrosion-resistant composite wood deck screws
- Stand-up screw gun
- Router (optional)
- Power drill

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SYMMATRIX wood plastic composite is designed for use as an outdoor deck board product.

Do not use SYMMATRIX wood plastic composite as a construction structural member.

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